567—83.6 (455B) Laboratory recertification. Laboratories shall be recertified every two years after initial certification. Applications for recertification must be on forms provided by the department and must be postmarked at least 60 days prior to the renewal date. Applications shall be accompanied by the fee specified in 83.3(2). To be recertified, laboratories must meet the following requirements.

83.6(1) Laboratories must use the approved methodology for all analyses the results of which are to be submitted to the department. A laboratory may not analyze and report data from samples collected for an environmental program area until certified in that area.

83.6(2) Certified laboratories must satisfactorily analyze PEs at least once every 12 months for each analyte by each method for which the laboratory wishes to retain certification unless a PE sample is not available for the particular analyte or method. Results must be submitted to Iowa department of natural resources or as otherwise directed, along with a statement of the method used within 30 days of receipt from the provider. The laboratory must maintain records of all PE samples for a minimum of 5 years.

83.6(3) Laboratories must notify the department, in writing, within 15 days of major changes in essential personnel, equipment, laboratory location, or other major change which might alter or impair analytical capability. An example of a major change in essential personnel includes the loss or replacement of the laboratory supervisor, or a trained and experienced analyst is no longer available to analyze a particular parameter for which certification has been granted.

83.6(4) Site visits.

a. Certification of the State of Iowa Hygienic Laboratory. The department has designated the State of Iowa Hygienic Laboratory (SHL) as its appraisal authority for laboratory certification. The SHL is responsible for attaining and maintaining laboratory certification for the SDWA program that is acceptable to the U.S. Environmental Protection Agency (EPA). The SHL quality assurance officer is responsible for the certification of SHL for those programs with no available EPA certification program, including wastewater, underground storage tank, solid waste, and contaminated site programs. The SHL quality assurance officer reports directly to the office of the SHL director and operates independently of all areas of the laboratory generating data to ensure complete objectivity in the evaluation of laboratory operations. The quality assurance officer will schedule a biennial on-site inspection of the SHL and review results for acceptable performance. Inadequacies or unacceptable performance shall be reported by the quality assurance officer to the SHL and the department for correction. The department shall be notified if corrective action is not taken.

b. On-site visits. Laboratories must consent to a periodic site visit by the department or its designee, at least every two years. However, an on-site visit may be conducted more frequently if the laboratory undergoes a major change which may alter or impair analytical capability, fails a PE sample analysis, or if the department questions an aspect of data submitted which is not satisfactorily resolved.

83.6(5) Period of validity. Certification shall be valid for a period not to exceed two years from the date of issuance, except in the case of reciprocal certification of an out-of-state laboratory. Reciprocal certification shall be valid for a period equal to that of the resident state in which the laboratory is certified, but shall not exceed two years. Certification shall remain in effect provided a laboratory has submitted a timely and complete application, until certification is either renewed or revoked.

83.6(6) Reporting requirements. Laboratories may not analyze or report sample results for any analyte, analytical series, or environmental program area until the initial certification status of "certified" or "temporary" has been granted by the department. Any data generated before certification status is granted will be considered invalid for compliance purposes. A laboratory with "provisional" status may analyze and report analyses for compliance purposes.

A certified laboratory may contract analyses to another certified laboratory. The responsibility lies with the primary certified laboratory contracting for services to verify that the secondary contracting laboratory is certified by the department and to ensure that reporting requirements and deadlines are met.

a. Water supply program.

(1) Certified laboratories must report to the department, or its designee such as SHL, all analytical test results for all public water supplies, using forms provided or approved by the department or by

electronic means acceptable to the department. If a public water supply is required by the department to collect and analyze a sample for an analyte not normally required by 567—Chapters 41 and 43, the laboratory testing for that analyte must also be certified and report the results of that analyte to the department. It is the responsibility of the laboratory to correctly assign and track the sample identification number as well as facility ID and source/entry point data for all reported samples.

1. The following are examples of sample types for which data results must be reported:

- Routine: a regular sample which includes samples collected for compliance purposes from such locations as the source/entry point and in the distribution system, at various sampling frequencies;
- Repeat: a sample which must be collected after a positive result from a routine or previous repeat total coliform sample, per 567—41.2(455B). Repeat samples must be analyzed at the same laboratory from which the associated original routine sample was analyzed;
- Confirmation: a sample which verifies a routine sample, normally used in determination of compliance with a health-based standard, such as nitrate;
- Special: a nonroutine sample, such as raw, plant, and troubleshooting samples, which cannot be used to comply with monitoring requirements assigned by the department;
- Maximum residence time: a sample which is collected at the maximum residence time location in the distribution system, usually for disinfection byproduct measurement; and
- Replacement: a sample which replaces a missed sample from a prior monitoring period resulting in a monitoring violation.

2. The following additional types of data must be reported to the department:

- Monthly Operation Report (MOR) data which has been specifically required by the department to demonstrate compliance with public health standards;
- Chemical results not required to be analyzed but which are detected during analysis, such as detection of a synthetic organic chemical during a routine analysis of that related analytical series for compliance reporting; and
- Raw water sampling results specifically covered by 567—Chapters 40 to 43 for new surface water or groundwater sources, or reconstruction of groundwater sources.

3. The following are examples of data results that are not required to be reported by the laboratory to the department:

- Routine MOR data;
- Distribution samples for the Total Coliform Rule for water main repair or installation; or
- Results for contaminants that are not required by the department to be analyzed, which are below detection level.

4. The sample type cannot be changed after submittal to the laboratory, without written approval by the department. The prescreening, splitting, or selective reporting of compliance samples is not allowed.

(2) Certified laboratories must report all analytical results to the public water supply for which the analyses were performed.

(3) Analytical results must be reported to and received by the department's designee by the seventh day of the month following the month in which the samples were analyzed.

(4) In addition to the monthly reporting of the analytical results, the following results must be reported within 24 hours of the completion of the analysis to the department by facsimile transmission (fax) or other method acceptable to the department, and to the public water supply for which the analyses were conducted:

1. Results of positive routine coliform bacteria samples, and all repeat and follow-up samples, reported within 24 hours of the completion of each sample's analysis.

2. Results of any contaminant which exceeds public drinking water standards (maximum contaminant level, treatment technique, or health advisory), and any subsequent confirmation samples, excluding lead and copper.

(5) If requested by the department, certified laboratories shall report their method detection levels, levels of quantitation, and any other pertinent information when reporting results for public water supplies.

b. Underground storage tank program. Certified laboratories must report to the client requesting the analysis and include the information required in 567—subrule 135.10(2) in their laboratory report.

c. Wastewater program. Certified laboratories must report to the client requesting the analysis and include the information required in 567—paragraphs 63.2(2)*"b"* to *"e"* in their laboratory report.

d. Solid waste and contaminated site programs. Certified laboratories must report to the client requesting the analysis and include the information required in paragraph 83.6(7)*"d"* and 567—subrule 103.2(8).

83.6(7) Performance evaluation (PE) and acceptance limits. All PE samples must be obtained from EPA; a provider accredited by EPA, the National Environmental Laboratory Accreditation Program (NELAP) or National Institute of Standards and Technology (NIST); or other provider acceptable to the department. All PE samples must have statistical acceptance limits. Certain environmental program areas may have specific PE requirements, as follows:

a. Water supply program. Laboratories must be able to achieve at least the method detection limit for each specific analyte as listed in 567—Chapter 41, in addition to any method detection limit requirement listed in this paragraph.

(1) Volatile organic chemical (VOC). Analysis for VOCs shall only be conducted by laboratories certified by EPA or the department or its authorized designee according to the following conditions. To receive approval to conduct analyses for the VOC contaminants in 567—subparagraph 41.5(1)*"b"*(1), except for vinyl chloride, the laboratory must:

1. Analyze PE samples provided by EPA, the department, or a third-party provider acceptable to the department, at least once a year by each method for which the laboratory desires certification.

2. Achieve the quantitative acceptance limits for at least 80 percent of the regulated organic chemicals included in the PE sample, except for vinyl chloride.

3. Achieve quantitative results on the PE samples within plus or minus 20 percent of the actual amount of the substances when the actual amount is greater than or equal to 0.010 mg/L.

4. Achieve quantitative results on the PE samples within plus or minus 40 percent of the actual amount of the substances when the actual amount is less than 0.010 mg/L.

5. Achieve a VOC method detection limit of 0.0005 mg/L.

(2) Vinyl chloride. To receive approval for vinyl chloride, the laboratory must:

1. Analyze PE samples which include vinyl chloride provided by EPA, the department, or a third-party provider acceptable to the department, at least once a year by each method for which the laboratory desires certification.

2. Achieve quantitative results on the PE samples within plus or minus 40 percent of the actual amount of vinyl chloride.

3. Achieve a method detection limit of 0.0005 mg/L.

(3) Synthetic organic chemical (SOC). Analysis for SOCs shall be conducted only by laboratories certified by EPA or the department or its authorized designee. To receive approval to conduct analyses for the SOC contaminants in 567—subparagraph 41.5(1)*"b"*(2), the laboratory must:

1. Analyze PE samples which include those substances provided by EPA, the department, or a third-party provider acceptable to the department, at least once a year by each method for which the laboratory desires certification.

2. For each contaminant that has been included in the PE sample, achieve quantitative results on the analyses that are within the following acceptance limits:

ACCEPTANCE LIMITS

Contaminant	Acceptance Limit, in percent
Alachlor	(+ or -) 45
Aldicarb	2 standard deviations
Aldicarb sulfoxide	2 standard deviations
Aldicarb sulfone	2 standard deviations
Atrazine	(+ or -) 45
Benzo(a)pyrene	2 standard deviations
Carbofuran	(+ or -) 45
Chlordane	(+ or -) 45
2,4-D	(+ or -) 50
Dalapon	2 standard deviations
Dibromochloropropane (DBCP)	(+ or -) 40
Di(2-ethylhexyl)adipate	2 standard deviations
Di(2-ethylhexyl)phthalate	2 standard deviations
Dinoseb	2 standard deviations
Diquat	2 standard deviations
Endothall	2 standard deviations
Endrin	(+ or -) 30
Ethylene dibromide (EDB)	(+ or -) 40
Glyphosate	2 standard deviations
Heptachlor	(+ or -) 45
Heptachlor epoxide	(+ or -) 45
Hexachlorobenzene	2 standard deviations
Hexachlorocyclopentadiene	2 standard deviations
Lindane	(+ or -) 45

Contaminant	Acceptance Limit, in percent
Methoxychlor	(+ or -) 45
Oxamyl	2 standard deviations
Pentachlorophenol	(+ or -) 50
Picloram	2 standard deviations
Polychlorinated biphenyls (PCBs as decachlorobiphenyl)	0 - 200
Simazine	2 standard deviations
2,3,7,8-TCDD (Dioxin)	2 standard deviations
2,4,5-TP (Silvex)	2 standard deviations
Toxaphene	(+ or -) 45

(4) Inorganic chemical (IOC). Analysis for IOCs shall be conducted only by laboratories certified by EPA or the department or its authorized designee. To receive approval to conduct analyses for ammonia, antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nitrate, nitrite, selenium and thallium, the laboratory must:

1. Analyze PE samples provided by EPA, the department, or a third-party provider acceptable to the department, at least once a year.

2. For each contaminant that has been included in the PE sample and for each method for which the laboratory desires certification, achieve quantitative results on the analyses that are within the following acceptance limits:

ACCEPTANCE LIMITS

Contaminant	Acceptance Limit
Ammonia	(+ or -) 20% at greater than or equal to 0.3 mg/L
Antimony	(+ or -) 30% at greater than or equal to 0.006 mg/L
Arsenic	(+ or -) 30% at greater than or equal to 0.003 mg/L
Asbestos	2 standard deviations based on study statistics
Barium	(+ or -) 15% at greater than or equal to 0.15 mg/L
Beryllium	(+ or -) 15% at greater than or equal to 0.001 mg/L
Cadmium	(+ or -) 20% at greater than or equal to 0.002 mg/L
Chromium	(+ or -) 15% at greater than or equal to 0.01 mg/L

Contaminant	Acceptance Limit
Cyanide	(+ or -) 25% at greater than or equal to 0.1 mg/L
Fluoride	(+ or -) 10% at greater than or equal to 1 to 10 mg/L
Mercury	(+ or -) 30% at greater than or equal to 0.0005 mg/L
Nitrate	(+ or -) 10% at greater than or equal to 0.4 mg/L
Nitrite	(+ or -) 15% at greater than or equal to 0.4 mg/L
Selenium	(+ or -) 20% at greater than or equal to 0.01 mg/L
Thallium	(+ or -) 30% at greater than or equal to 0.002 mg/L

(5) Lead and copper. To obtain certification to conduct analyses for lead and copper, laboratories must:

1. Analyze PE samples that include lead and copper provided by EPA, the department, or a third-party provider acceptable to the department, at least once a year by each method for which the laboratory desires certification; and

2. Achieve quantitative results on the analyses that are within the following acceptance limits:

- Lead: plus or minus 30 percent of the actual amount in the PE sample when the actual amount is greater than or equal to 0.005 mg/L. The practical quantitation level or PQL for lead is 0.005 mg/L; and
- Copper: plus or minus 10 percent of the actual amount in the PE sample when the actual amount is greater than or equal to 0.050 mg/L. The practical quantitation level or PQL for copper is 0.050 mg/L; and

3. Be currently certified by EPA or the department to perform analyses to the specifications described in 567—paragraph 41.4(1)*"g."*

(6) Disinfection byproducts. To obtain certification to conduct analyses for disinfection byproducts listed in 567—paragraph 41.6(1)*"b,"* laboratories must:

1. Analyze PE samples approved by EPA, the department, or a third-party provider acceptable to the department at least once during each period of 12 consecutive months by each method for which the laboratory desires certification;

2. Achieve quantitative results on the PE sample analyses that are within the following acceptance limits:

Disinfection Byproduct	Acceptance limits (plus or minus this percent of true value)	Comments
TTHM		Laboratory must meet all four individual THM acceptance limits in order to successfully pass a PE sample for TTHM.
Bromoform	20	
Bromodichloromethane	20	
Chloroform	20	
Dibromomethane	20	

Disinfection Byproduct	Acceptance limits (plus or minus this percent of true value)	Comments
HAA5	40	Laboratory must meet the acceptance limits for 4 of the 5 HAA5 compounds in order to successfully pass a PE sample for HAA5.
Monobromoacetic Acid	40	
Dibromoacetic Acid	40	
Monochloroacetic Acid	40	
Dichloroacetic Acid	40	
Trichloroacetic Acid	40	
Chlorite	30	
Bromate	30	

3. Report quantitative data for concentrations at least as low as the levels listed in the following table for all disinfection byproduct samples analyzed for compliance with 567—41.6(455B).

Disinfection Byproduct	Minimum reporting level, mg/L[1]	Comments
TTHM[2]		
Bromoform	0.0010	
Bromodichloromethane	0.0010	
Chloroform	0.0010	
Dibromomethane	0.0010	
HAA5[2]		
Monobromoacetic Acid	0.0010	
Dibromoacetic Acid	0.0010	
Monochloroacetic Acid	0.0020	
Dichloroacetic Acid	0.0010	
Trichloroacetic Acid	0.0010	
Chlorite	0.020	Applicable to chlorite monitoring conducted by a certified laboratory required under 567—paragraphs 41.6(1)*"c"*(3)"2" and 41.6(1)*"c"*(3)"3"
Bromate	0.0050 or 0.0010	Laboratories that use EPA Method 317.0 Revision 2, 321.8, or 326.0 must meet a 0.0010 mg/L MRL for bromate.

[1]The calibration curve must encompass the regulatory minimum reporting level (MRL) concentration. Data may be reported for concentrations lower than the regulatory MRL as long as the precision and accuracy criteria are met by analyzing an MRL check standard at the lowest reporting limit chosen by the laboratory. The laboratory must verify the accuracy of the calibration curve at the MRL concentration by analyzing an MRL check standard with a concentration less than or equal to 100 percent of the MRL with each batch of samples. The measured concentration for the MRL check standard must be plus or minus 50 percent of the expected value, if any field sample in the batch has a concentration less than five times the regulatory MRL. Method requirements to analyze higher concentration check standards and meet tighter acceptance criteria for them must be met in addition to the MRL check standard requirement.

[2]When adding the individual trihalomethanes or haloacetic acid concentrations to calculate the TTHM or HAA5 concentrations, respectively, a zero is used for any analytical result that is less than the MRL concentration for that disinfection byproduct, unless otherwise specified by the department.

b. Underground storage tank program. A laboratory must achieve acceptable results on PE samples every 12 months within plus or minus 20 percent of the true value for individual compounds (i.e., benzene, ethylbenzene, toluene, xylene by OA-1) and plus or minus 40 percent of the true value for multicomponent materials (i.e., gasoline, diesel fuel, motor oil by either OA-1 or OA-2). The PE samples must be provided by EPA, the department, or a third-party provider acceptable to the department.

c. Wastewater program. Achieve acceptable quantitative results every 12 months on PE samples equivalent to those used in the Water Pollution (WP) proficiency program, or the Discharge Monitoring Report Quality Assurance (DMRQA) program, both of which are administered by EPA or its designee.

d. Solid waste and contaminated site programs. Achieve acceptable quantitative results every 12 months on PE samples provided by EPA, the department, or a third-party provider acceptable to the department.

[**ARC 9915B**, IAB 12/14/11, effective 1/18/12]